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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,907	10/01/2001	Hitoshi Arita	214635US0	5663

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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

FAISON, VERONICA F

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/966,907

Applicant(s)

ARITA ET AL.

Examiner

Veronica F. Faison

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 35-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continuation of Disposition of Claims: Claims pending in the application are 1-7,35-40,70,71,80,81,90,91,100,101,110,111,120,121,130,131,140,141,161,162,171,172,181,182,191,192,201,202,211,212 and 221-234.

Continuation of Disposition of Claims: Claims withdrawn from consideration are 70,71,80,81,90,91,100,101,110,111,120,121,130,131,140,141,161,162,171,172,181,182,191,192,201,202,211,212 and 221-234.

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DETAILED ACTION

Response to Amendment

Claims 1-7, 35-40, 70-71, 80-81, 90-91, 100, 110, 120, 130, 140, 161, 171, 181, 191, 201, 211 have been amended, claims 221-234 have been added and claims 8-34, 41-69, 72-79, 82-89, 92-99, 102-109, 112-119, 112-129, 132-139, 142-160, 163-170, 173-180, 183-190, 193-200, 203-210, 213-220 have been canceled. Hence, 1-7, 35-40, 70-71, 80-81, 90-91, 100-101, 110-111, 120-121, 130-131, 140-141, 161-162, 171-172, 181-182, 191-192, 201-202, 211-212 and 221-234 claims are pending in the application, however claims 70-71, 80-81, 90-91, 100-101, 110-111, 120-121, 130-131, 140-141, 161-162, 171-172, 181-182, 191-192, 201-202, 211-212 and 221-234 are still withdrawn consideration. The amendment was persuasive to the extent that the Obvious Double Patenting has been withdrawn.

Election/Restrictions

Newly submitted claims 221-234 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: these claims are directed to a non-elected method of printing.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 221-234 have been withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

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In response to Applicant's request for rejoinder, the Examiner would consider rejoining the withdrawn claims once the ink composition has been found allowable.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

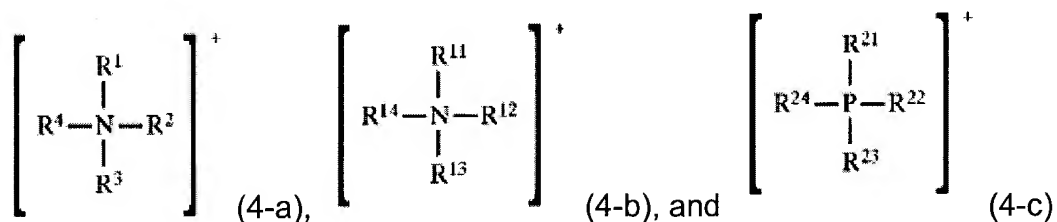
This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagai et al (US Patent 5,882,390) in view of Yamamuro et al (US Patent 4,700,203).

Nagai et al teach in an aqueous ink composition comprising a colorant, which is soluble or dispersible in water and includes at least one phthalocyanine compound, a dispersant, water and a humectant (abstract and col. 3 line 41-col. 4 line 56). In order to improve the solubility stability of the phthalocyanine compounds an alkali metal cation

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represent by M⁺ be selected from the group consisting of Na⁺, Li⁺, quaternary ammonium cation (4-a), alkanolamine (4-b), and a quaternary phosphonium (4-c):



wherein R¹ to R⁴ are selected from a hydrogen atom, an alkyl group having from 1 to 4 carbon atoms, a halogenated alkyl group having from 1 to 4 carbon atom and a halide alkyl group having 1 to 4 carbon atoms; at least one of R¹¹ to R¹⁴ is a hydroxyalkyl group having 1 to 4 carbon atoms, and the other is selected from a hydrogen atom, an alkyl group having from 1 to 4 carbon atoms, a halogenated alkyl group having from 1 to 4 carbon atom; R²¹ to R²⁴ are selected from a hydrogen atom, an alkyl group having from 1 to 4 carbon atoms, a halogenated alkyl group having from 1 to 4 carbon atom (col. 13 line 50-col. 14 line 60). The reference further teaches that by adding these cations the ink jet printing can be carried out with maintaining high reliability of ink ejection, free from the clogging of the nozzle (col. 15 lines 50-55). The ink composition has a pH in the range of 6 to 11 (col. 22 lines 5-37). The reference remains silent to the amount of phosphonium ion based on the equivalent of an anionic compound, however it appears to the Examiner that with the amount of anionic compound present in the ink composition that the amount of phosphonium would overlap the claimed range. The reference further teaches a recording method of forming an image on a recording medium by ejecting and jetting a plurality of aqueous recording liquids as droplets from one ejection nozzle or separated ejection nozzles and an ink jet apparatus (col. 18 lines

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25+). Nagai et al fails to teach the specific materials set forth in claims 1 and 35.

Nagai et al fails to specifically exemplify the phosphonium ion as claimed by applicant.

Therefore, it would have been obvious to one of ordinary skill in the art to use the phosphonium ion as claimed by applicant as Nagai et al also discloses the phosphonium but shows no example incorporating them.

Yamamuro et al teach an ink jet head for compressing ink in an ink chamber to eject a drop of the ink from a nozzle (abstract and col. 4 lines 9-30). The reference further teaches that the housing is prepared by etching a photosensitive glass to form the nozzles, ink chambers, ink supply section, etc. is rigidly connected to the protective layer by mechanical means or chemical means as bonding such that the ink chambers face the conductive layers in one-to-one correspondence (col. 7 line 63-col. 8 line 50). Therefore it would have been obvious to one of ordinary skill in the art to use the materials disclosed by Yamamuro et al in Kaneko et al because Kaneko et al broadly discloses a printing apparatus.

Claims 35-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagai et al (US Patent 5,882,390) in view of Yamamuro et al (US Patent 4,700,203) in further view of Stoffel et al (US Patent 4,994,110).

Kaneko et al and Yamamuro et al are described above, but fail to teach alkali metals.

Stoffel et al teach an ink for ink jet printing wherein the presence of sodium (alkali metal) should be present in the amount of about 500 ppm or less to avoid crusting of the orifices (col. 4 lines 12-38). Therefore it would have been obvious to one of ordinary

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skill in the art to decrease the amount of alkali metal present in the ink composition to reduce the crusting of the orifice.

Response to Arguments

Applicant's arguments with respect to claims 1-7 and 35-40 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The remaining references listed on forms 892 have been reviewed by the Examiner and are considered to be cumulative to or less material than the prior art references relied upon in the above rejections.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Veronica F. Faison whose telephone number is 571-272-1366. The examiner can normally be reached on Monday-Thursday and alternate Fridays 8 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell can be reached on 571-272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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